

White Paper Report

Report ID: 104506

Application Number: PF-50204-11

Project Director: Elaine Hughes (ehughes@mna.mus.az.us)

Institution: Museum of Northern Arizona

Reporting Period: 9/1/2011-8/31/2014

Report Due: 11/30/2014

Date Submitted: 11/21/2014

White Paper

PF-50204-11

Project to Purchase Compactor Shelving and Acid-Free Supplies for the Rehousing of MNA Archives in the New State-of-the-Art Easton Collections Center

Project Director: Elaine Hughes, Collections Director
Patricia Walker, Archivist

Museum of Northern Arizona, Inc.
21 November 2014

Project Overview

In September 2011, the Museum of Northern Arizona (MNA) received a Sustaining Cultural Heritage Collections grant for \$139,858 from the National Endowment for the Humanities (NEH) for a three year project to address the preservation needs of archives. Specifically, this project allowed for the purchase of mobile archive shelving and map cases for installation in the Easton Collection Center (ECC) so that archives could be moved out of deleterious environmental conditions in dispersed buildings on campus. This project was successfully completed by the Archivists and their respective crews by the end of August 2014.

MNA Archives

MNA's rich archive holdings and collections document its history, heritage and current initiatives. The Museum is an AAM accredited, private, nonprofit 501(c)3 museum with a strong local identity, a regional focus, and an international perspective. Located in Flagstaff, Arizona at the 7000' base of the San Francisco Peaks, MNA was founded in 1928 by a group of local citizens under the leadership of Dr. Harold S. Colton (zoologist) and professional artist Mary-Russell Ferrell Colton. Their vision was to create a regional center to foster an appreciation for past and living cultures and the art, biology, ecology and geology of the Colorado Plateau, a culturally and biologically diverse region encompassing major portions of Arizona, Utah, Colorado and New Mexico. The Colorado Plateau includes 130,000 square miles of high plateaus and mountains, deep canyon systems, rivers, volcanic cinder fields and windswept high deserts. MNA's mission is "to inspire a sense of love and responsibility for the beauty and diversity of the Colorado Plateau through collecting, studying, interpreting, and preserving the region's natural and cultural heritage."

The Colorado Plateau is a region of national significance, rich in archaeological sites, and long a major center for archaeological research and innovation in archaeological techniques. The Plateau is also home to the largest Native American population in the nation. From inception MNA has dedicated itself to protecting the region's resources for the benefit of the public and tribes and has made regionally and nationally significant contributions to our understanding of this diverse area. MNA was at the core of both archaeological and ethnographic research and is still engaged in innovative partnerships with regional Native American tribes.

The archives of MNA document this rich history and its holdings fall into two broad categories, manuscript collections and institutional archives. Both categories of material are primary, original, unique and irreplaceable. To render these holdings more widely accessible, MNA's Archivist contributes manuscript content information to two consortia sites in Arizona: *Arizona Archives Online* (<http://www.azarchivesonline.org>) and the *Arizona Memory Project* (<http://azmemory.lib.az.us/>).

A few examples of manuscript collections include the **Wetherill Family collection (MS-1)** which details the activities of the Wetherills, a family of traders who worked on the Navajo Nation from 1867-1946. Richard Wetherill and his family are credited with popularizing and bringing serious national attention to sites in Chaco Canyon National Monument and Navajo National Monument. The **Walter Runke collection (MS-74)** is comprised of images related to Walter and Laura Runke's experiences at a BIA boarding school at the turn of the 20th century. Teachers at the school, their collection contains rare images of the Blue Canyon School near Tuba City AZ from 1901-1903. The **Gunnar Widforss collection (MS-138)** includes biographical information about Widforss (1879-1934) a Swedish-born, naturalized American citizen, who became known as the painter of the National Parks. His manuscript collection was used by William Belknap to write the *Gunnar Widforss: Painter of the Grand Canyon* biography in 1969. The **Kate Cory Collection (MS-208)** details her life as a Euro-American woman from New York City who was invited by Hopi women to live on the Reservation from 1905-1912. Cory documented a wide facet of daily activities in the Hopi community. The **Frank Schilling Cummings**

Collection (MS-305) documents his 1940-1960 films of life on the Navajo Reservation. These silent, color films show Navajo people engaged in weaving, sandpainting, silver making, and food preparation.

The Museum's institutional archives are an extensive set of records created as a part of scholarly research, operations and activities by the Coltons, MNA staff and visiting scholars. Institutional history is manifest in a wide a range of media: correspondence, ledgers and notebooks account for original research undertaken by MNA; thousands of photographs document important excavation and pre-historic structure stabilization projects; other photographs portray Hopi, Navajo and Zuni artisans interpreting their craft to the visiting Museum public; audio-visual recordings replay important Native American festivals and other MNA cultural events; vital records provide evidence of important decisions made by former directors and how new directions have affected the history of museums and the scholarly field of museology more broadly. The following includes a few examples of MNA institutional archives.

Trained as an artist, Mrs. Colton (Curator of Ethnology and Art) was an active proponent of art education. In 1934 she assembled two "treasure chests" (stocked with art supplies, samples and instructions) that traveled to area and reservation schools. The trunks received national attention for their innovation and one was borrowed by the Boston Museum of Art for a 1950 exhibit on museum education. Her concern for the welfare and crafts of tribes lead her to create the annual Hopi (in 1930) and Navajo (1949) Craftsman Exhibitions. A Zuni Craftsman Marketplace was added in 1987. Now known as Heritage Festivals, MNA Archives has over 40 linear feet of textual material, 10,000 photographic images, 41 films/audio recordings, and an assortment of memorabilia items related to all of these festivals. Mrs. Colton also worked with Hopi silversmiths to introduce the now-popular Hopi silver overlay technique for jewelry design. Her work with Hopi is documented in several publications of which *Hopi Silver* by Margaret Wright and *The Hopi Silver Project* by Richard and Sherry Mangum (Plateau New Series, #1, 1995) are primary references. Mrs. Colton's research to document Hopi vegetal dyes was published in the 1965 *Hopi Dyes* book, which continues to be an important reference work for Hopi cultural traditional practitioners interested in traditional dye formulas.

Trained as a zoologist, Dr. Colton (MNA's first Director) authored over 200 books and articles on various cultural and natural studies including a classic compilation of over 300 Hopi katsina spirits in *Hopi Kachina Dolls*. Based on his research Colton defined three prehistoric cultures, Sinagua, Cohonina, and Kayenta. With staff member, Lyndon L. Hargrave, Dr. Colton adopted a taxonomic approach to ceramic classification of Ancestral Pueblo pottery types that became a model and tool in Southwestern archaeology. This ceramic classification system is still in use today and MNA continues to build on their early work with an on-line ceramic identification manual (<http://musnaz.org/cfim/>).

Between 1928 and 1941, Lyndon Hargrave contributed 420 dates from 5466 prehistoric beam specimens to Dr. Andrew Douglass' research into tree-ring dating. Several tree-ring collecting projects, most notably the National Geographic Beam Expedition, allowed MNA to contribute samples that helped Dr. John C. McGregor formulate a complete chronology of prehistoric occupation in northern Arizona. Research notes from all of these projects are within MNA's institutional archives.

Besides adding historical significance to MNA's object collections these records document the changing face of anthropology research, theory, and relationships with tribal communities. These files also contain research performed on MNA holdings by scholars such as Joe Ben Wheat, Kate Peck Kent, Ann Hedlund, Christy Turner, John McGregor, and a host of other scholars who studied and defined this region for the rest of the national and international community.

Project Activities

At the start of this NEH project MNA's Archivist (Aaron Spelbring) was in the final stages of completing a three year IMLS Museums for America grant on which he was spending part of his time. Upon the successful conclusion of the IMLS grant at the end of October 2011 he turned his attention full-time to this NEH archive move project.

The Archivist reviewed the archive storage furniture originally proposed in relation to the available space in the ECC. In consultation with Concert Architectural Interiors (CAI), the Archivist and MNA staff determined that additional floor space was available to add another bank of archive shelving. The lower section of this new shelving bank was reserved for the eventual installation of fire proof file cabinets for registration records. (Several fire proof cabinets were purchased and installed under a successful NEH Preservation Assistance Grant [PG-51650-12] submitted by MNA's Registrar, Kara Kelly.) The archives shelving plan included a stationary map case bank for 179 linear feet of map storage and sufficient shelving for 3300 linear feet of archival material. Each of the mobile shelving units is approximately 121.5" tall, 180" wide, and 32" deep to accommodate two 16" shelves back-to-back. The Archivist placed MNA's order on 26 September 2011.

The National Park Service (NPS) contributed an additional \$23,422 towards the purchase of 2 mobile carriages and archives shelving. Due to a variety of circumstances (see Challenges section), CAI completed the final installation of this storage furniture the week of April 9-18th, 2012, rather than in November 2011 as originally anticipated.

As soon as the shelving was installed, the Archivist began the move of archives from the Library into the ECC and completed this task in the summer of 2014 (see images in Attachment 1). Although the Archivist originally anticipated moving this archive group first, Departments began to turn over archive holdings sooner than anticipated, so that the move of Library archives and dispersed Departmental archives occurred concurrently throughout the project.

As Departmental archives were turned over in the first year of the grant, the Archivist processed them in line with the procedures outlined in the grant. Archives were rehoused in 5" document (or Hollinger clam shell) boxes which were then wrapped in plastic and moved into the ECC walk-in freezer where they remained for two weeks. The Library is known to have an active booklice infestation and while booklice are not a risk to archives in general, the Archivist wanted to ensure that these persistent pests were not moved into the ECC.

This processing procedure was revised in August 2012 based on recommendations made by a new conservation team and under the guidance of a new staff Archivist (Patricia Walker). In August 8-13th 2012 MNA hosted a team of conservators who performed an IMLS funded general conservation survey of its collections and buildings. The purpose of this project was to provide MNA with new data for the development of a new Preservation Plan. The Paper Conservator, Susan Duhl, recommended several changes in procedure and materials for paper archives which were adopted by the new Archivist. Ms. Duhl was concerned that archives rehoused in the Library could transfer mold to the ECC, so she recommended that archives remain in their existing, often acidic, containers until after they were moved to and frozen in the ECC. After freezing the archives were vacuumed with a Nilfisk HEPA object vacuum cleaner and then moved into archival containers. Based on Ms. Duhl's recommendation, the Archivist also switched to the use of larger (12x11x15") acid-free record center boxes rather than the smaller containers used before. However by the end of this move project, the Archivist decided that the larger boxes were not always desirable (see Lessons Learned).

The IMLS supported Photographic Materials Conservator, Kim DuBoise, in turn advised the Archivist that none of the photographic materials (photographs, negatives) should be frozen. Based on this recommendation the Archivist used a quarantine (isolation and monitoring) program from this point on to check photographic materials for insect pests. Using quarantine procedures, photographic materials were wrapped in plastic and periodically checked for insect activity over a 4 month time period. A four month monitoring program has been used successfully by the Collections Department when moving other collections into the ECC. As noted above the insects did not pose any risk to photographic materials, but they could harbor pests that MNA did not want to transfer to other at risk collections within the ECC.

As archives were moved into the ECC, their locations were maintained in an Excel spreadsheet rather than updated in the Collection Department's database. CSI advised MNA that it was important to ensure even weight distribution on both sides of the carriages to prevent shelving from leaning and or tipping. For this reason boxes were redistributed periodically as new ones were added to each side. The use of an Excel spreadsheet was determined to be the most efficient method for maintaining intellectual control over constantly moving boxes of archives.

The move of all MNA archives into the ECC was completed by the end of August 2014. The space in the Library where the archives originally resided was cleaned and organized by the Archivist and volunteers and now serves as a transitional processing space for archives that continue to be turned over to the Archivist by Departments.

Challenges

Several challenges presented themselves during this project. While MNA was able to successfully complete the move of archives, these challenges were stressful because they added another level of complexity to the project.

The first challenge was related to a change in personnel due to an initial lack of institutional commitment to the Archivist position. NEH was notified as these changes occurred. The Archivist's position was originally funded through a three year (11/2008-11/2011) IMLS Museum's for America grant that was focused on building institutional capacity through the addition of this new staff position. By the time MNA was notified that it had received the NEH grant, the original Archivist (Jonathan Pringle) had left MNA for a permanent position at a local university, and a new Archivist (Aaron Spelbring) was on board. Aware that MNA was seeking and obtaining limited funds (Southwestern Foundation grant 2011) to support his position, Mr. Spelbring left MNA for a permanent out-of-state position. MNA's Registrar, Kara Kelly, temporarily filled in to continue the move of processed archives. She previously served as the Archivist at Union Station for 4 years and was an invaluable asset as the temporary Archivist during this time. The Archivist position was refilled (30 July 2012) by Patricia Walker who worked diligently to complete this project. All three Archivists who worked on this project are professionally trained, but from different programs and with differing levels of experience. As each new Archivist was hired they reassessed the shelving, work-flow, methods, and/or process which resulted in temporary delays. But through their hard work and dedicated volunteers and interns, the Archivists were able to keep the project moving. The Archivist is now regular staff of MNA.

The next challenge was due to the delay in installation of archive shelving during the first few months of the project. The Archivist ordered the shelving in September 2011, but CAI was not able to complete the install by the end of November 2011 as they had originally anticipated. This first delay was due to the order of special map cases from Delta Design, Ltd who advised CAI that they required more time to build the cases. As a result the first mobile shelving install attempt did not occur until 31 January-10 Feb. 2012. At this time CAI requested the use of the ECC Lobby as a staging area to temporarily store shelving pieces. As the CAI crew began installation, they discovered that the rollers and center guide for all of the mobile carriages were misaligned (2 inches off center). All of the carriages were shipped back to Phoenix to be correctly aligned and recoated. This meant that the shelving remained in the ECC Lobby until the final installation occurred.

The carriages and shelving were finally installed April 9-18th, 2012, however, a mistake was made by CAI regarding the number of map cases ordered. MNA ordered 15 map cases, but the CAI installers had 30 cases. Because it was too expensive to ship the additional cases back to Topeka, KS, CAI decided to donate the additional map cases to MNA and they reside in the future ECC Fine Arts storage space.

The third challenge related to the continuous use of archives by staff and external users who were particularly interested in image access. When collections are moved, museums will announce that the

affected collections are closed for access. However, as noted by colleagues, a closure is almost impossible to fully implement. MNA's closure of archives was less successful than is normally reported in the profession, but the Archivist worked with interns and volunteers to address essential requests while keeping the archives move project underway.

The final challenge was associated with the pathway used to physically move archives from the Library Building to the ECC. The weather was a known issue for which the Archivist was prepared. It was often problematic to move materials between late November through March due to snow and from July through August due to monsoons. The Archivist maintained a close watch on the weather on a daily basis while coordinating move schedules with a range of interns, volunteers, and students. However, the challenge that the sidewalk presented was unanticipated. As part of MNA's campus renovations, the access road that separated the ECC from the Library was permanently closed off. The result was that archives transport had to occur across sidewalks which were made of special pavers. These pavers allow rainwater to percolate between pavers and directly into the ground, but this special feature produces a rough surface for the rolling transport of collections. The Archivist had to take special precautions, such as carefully strapping archive boxes to carts to prevent boxes from vibrating off. These pavers were particularly problematic when the time came to move glass-based photographic formats. The Archivist, Associate Archivist (2013 IMLS grant), and archive intern discussed options for moving glass plates with the Photographic Materials Conservator. The solution they devised was to place ethafoam inserts within glass plate negative boxes and between envelopes to prevent plate movement. These containers were then placed on a cart lined with large bubble wrap with ethafoam backer rod around the sides and in-between boxes. This method effectively stabilized containers on the cart which was then rolled from the Library to the ECC. The glass plates were then placed in cabinets in the ECC which were also lined with ethafoam and with ethafoam backer rod placed between the rows to prevent glass plate containers from sliding around on shelves.

Lessons Learned

Several lessons were learned over the course of this grant and they are proposed with caution because it should be noted that every project is different. No one plan, process, or method works in all situations.

Such was the case with the Paper Conservator's recommendation that the Archivist switch from the use of 5" (Hollinger) acid-free clamshell boxes to the use of larger (12x11x15") acid-free record center boxes. By the end of the move project, the Archivist determined that the larger record center boxes was a bad idea for higher shelves that are only accessible via ladders. Very dense collections in large boxes have proven problematic and unsafe on the higher shelving and will need to be rehoused into smaller boxes. Until this occurs, some records will be separated from related archives and will require temporary markers to direct the Archivist to where they reside. For example, collections of aerial photos are stored on lower shelving because their weight (45 lbs) in a large record center box precludes climbing a ladder. When stored at a height that required ladder access, two staff members were required to safely pull the boxes down. Certain collections will be reassessed and prioritized for immediate rehousing in 5" document boxes to avoid unnecessary health safety risks to staff, interns, and volunteers.

In the future, the Archivist will choose to quarantine archives over freezing when time is a factor. While freezing is a faster method to ensure that materials are not infested, archives must be checked to remove any materials, such as photographic negatives, that cannot be frozen. When freezing was employed, volunteers and interns had to be trained to recognize formats that could not be frozen and extra documentation was required (separation forms) to ensure that the materials could be reunited once in ECC storage. Quarantining does not require any separation of materials because none are subjected to thermal stress, or even to mechanical or chemical stress.

Testing and selection of more appropriate move equipment from the start would have been beneficial. While the hand truck and carts that the Archivist used were effective (http://www.uline.com/BL_1864/Uline-Utility-Cart-with-Pneumatic-Wheels and http://www.uline.com/BL_269/Big-Wheel-Handi-Mover), she feels that it would have been more efficient to have a cart specifically designed for use in Record Centers. Together, the carts and hand truck could hold eight to twelve record center boxes and six 5" document boxes at a time. A cart such as a stock picker (http://www.uline.com/BL_382/Welded-Stock-Picker-Carts) or a depository truck (<http://www.demco.com/goto?BLS260969&ALL0000&es=20141113125652833873>) would have worked far more effectively to move boxes if the phenolic wheels were exchanged for pneumatic wheels. In addition, the mobile wire shelving ("baker's racks") used in both buildings to temporarily store collections had to be monitored closely as the weight of the boxes could bend the bolts attaching wheels to the shelving units. Over the course of the grant, one wheel failure occurred, and fortunately it failed while staff was present but not moving the unit. The shelving unit tipped and rested against a wall about six inches away and staff quickly shifted the boxes onto available library shelving.

Outcomes and Accomplishments

This project included immediate improvement at the document and collection level and long-term improvements at the institutional level. It also served to further MNA's Institutional and Preservation Plans and directly supported MNA's mission. An essential part of MNA's mission is to ensure that archives are accessible so that they have maximum potential for interpretive, research, and cultural programs. This project remedied the imminent risk of deterioration to archives from poor storage and lack of intellectual control present in other MNA campus buildings where they were stored. With the archives in the ECC, the housing and environmental conditions are vastly improved. The outcomes that were achieved by this project include the following:

- Archives are now centralized in one storage area. The only archives that are not in the ECC are the (primarily) federally owned site files which are currently required for NAGPRA compliance. These site files were moved during this project from cramped quarters in the Anthropology Department and into a more secure collection storage room adjacent to NAGPRA holdings in Old Anthropology Storage. In addition, about 40 glass plate negatives requiring stabilization and individualized rehousing remain in the library until this work is completed.
- The Archivist oversees and monitors the use of archives in the ECC.
- The Archivist annually transfers institutional archives to the ECC
- Access to archives by staff, researchers, and tribes is controlled, but greatly facilitated.
- Space is currently available for limited growth of the manuscript collections and institutional archives. At some point in the future, photographic materials will be moved out of ECC archive storage and into cool and cold storage in another location in the ECC or another building on campus. When this occurs far more space will be available for paper based archive additions. MNA is currently involved in an IMLS grant project to determine the amount of cool and cold storage required for its photographic materials.
- Relationships with Native American communities has strengthened due to increased care for records identified as culturally sensitive
- Internal/external research opportunities have been achieved through enriched catalog and database records for high access holdings. More work is needed to bring other archive holdings to this level but the Archivist continues to provide online access to holdings through the sharing of descriptive finding aids with *Arizona Archives Online* and digitized item-level holdings (documents, photographs) with the *Arizona Memory Project*.
- No booklice infestation was brought into the ECC by the archive move as evidenced by MNA's IPM sticky trap program.

- Controlled public access to collections and archives through collection staff guided tours is underway again. The final behind-the-scenes archives tour for 2014 will occur on November 24th

When MNA submitted this NEH grant, NPS initially committed \$15,000 towards the purchase of archive shelving. But by the time that this grant was funded, NPS was able to secure a higher amount (\$23,422) which helped fund an improvement to the shelving system. Both MNA and NPS were concerned about the potential damage from necessary or unintentional release of water from the overhead ECC sprinkler system. NPS sent out an RFP to several museum storage furniture companies to solicit methods for diverting water from archive boxes. CAI was the only company that was able to devise a system which consists of a gutter installed on the top of each unit that overlaps adjacent shelving.

When this project was submitted, MNA estimated that it had 3500 linear feet of archives. The shelving purchased amounts to 1925 linear feet, of which archives is currently utilizing 1835 linear feet. The estimate of 3500 linear feet was based on the work of interns under the guidance of a Librarian, and was based on the depth of archives in drawers and boxes. The 2007 Archive Consultant and two prior Archivists (Pringle and Spelbring) converted the 3500 linear feet into a standard archives measurement based on the width (12"), not the depth (15") of boxes. Boxes of materials stored flat have been double-stacked (or triple-stacked if light weight enough) to conserve space on the shelving units. In addition, most of the textual material has been stored in the letter-size orientation within the boxes rather the more typical legal-sized orientation to also conserve space. The change in orientation has a direct impact on how the linear footage is measured. Once all of the audio-visual and photographic materials are rehoused properly what little space has been conserved through stacking and storage orientation will be gone.

Audience

The audience for this project includes staff, researchers, tribes, the public, and professional colleagues. As noted in the section above, the archives are now centralized and more accessible to users. A total of 418 staff, researchers, and tribal and public members accessed the archives during this project even though the archives were technically closed so that the archives could be moved. Eighty-five percent (355) of the requests were made by in-house staff and associated researchers. Fifteen percent (63) consisted of requests from publishing house and tribes (3 of 63).

MNA also hosts behind-the scenes public tours to discuss the life of collections and challenges they face. The ECC Lobby is the first internal area seen by the public on tours and during the first part of this project, the archive shelving was stored for several months in the ECC Lobby. Although this presented a "messy" appearance to tour attendees, it was helpful in showing them that despite all of the planning that occurs, mistakes can happen. Even now the public is interested in the story of the misaligned carriages and the donated map cases. A total of 1,234 attendees heard about this NEH project during tours and open houses.

The museum profession also learned about the NEH move project during presentations at professional meetings and articles printed in newsletters including:

- 2013 "*How Do Archives Move?*" Southwestern Archivist newsletter, pg 18 by Melissa VanOtterloo
- Fall 2012 Registrar's Committee-Western Region newsletter, pg 20. (Attachment 2)
- 1 April 2012, "Heads in the Clouds: Can Lofty Partnership Ideas Become Real?", Museum Association of Arizona annual meeting, Aaron Spelbring and Elaine Hughes presenters
- Oct. 2011, "Documents as Collections", Mountain Plains Museum Association annual meeting in Helena, MT, Elaine Hughes presenter

MNA hosted two archive interns who worked on this project. Melissa Van Otterloo was a recent graduate of the Drexel University MLS/archival studies program and worked on the move from June 2012 through September 2013, a total of 16 months. Nicole Becwar was a recent graduate of the

University of Arizona with an MA in Information Resources and Library Science and worked on the move from May through September 2014. Both interns were invaluable to this move project.

Continuation of the Archives Project and Long-Term Impact

This NEH archive move project is part of a larger preservation initiative that will continue for years and decades to come. MNA's commitment to caring for its archives was an outgrowth of needs first identified by surveys starting in the late 1980s. At this time archives in the library were viewed as library holdings, photoarchives were stored in and used by the Publication Department, and Departmental archives were viewed as dead records. During a 1988 MAP II survey (Lynn Denton) a top recommendation was to "clarify the role of the Archives/Manuscripts division (including photographs) as a collection section." This need was echoed through the years as other surveys occurred. Jeanne Brako (IMS general conservation survey-1989) and Steven Weintraub (IMS environmental survey-1990) commented on the numerous boxes of archives located "in other departments" and recommended that MNA hire at least a part-time archivist. In 1994 Laine Sutherland (photoarchive consultant) stated that there was no intellectual control of photographic holdings, insufficient finding aids, and inventories, and noted that "miscellaneous photographic collections were located in various departments."

Before MNA could address these preservation needs, other institutional challenges that affected archives had to be addressed. Until 1994/95 collection care responsibilities were dispersed across research departments, resulting in inconsistent levels of care. This was resolved when MNA's Collections Department was created and charged with addressing the needs of collections museum-wide. The next challenge was to create a concise preservation plan that incorporated needs identified in conservation survey reports. This was resolved in 2002 with an NEH Preservation Assistance grant which resulted in the creation of MNA's 2003 Preservation Plan.

Another challenge to resolve was MNA's environmentally deficient and over-crowded collection storage facilities. This deficiency was resolved in 2004 by the Easton family's \$7.9 million donation for the construction of the ECC. Completed in September 2009, the ECC is a LEEDs certified (platinum level), purpose built, privately funded collection storage facility designed to house 1st and 2nd preservation priority collections on compactor rails. With a living roof and totaling 17,283 sq.ft. (13,746 sq.ft. storage and 3,357 sq.ft. office and processing), it was designed in consultation with MNA staff, Conservator Matthew Crawford, NPS Architect Richard Cronenberger, and representatives from the Hopi and Zuni Tribes, Navajo Nation, and Apache Bands. It has fire detection, a wet pipe fire suppression system, light control, HEPA filtration, and thick insulated walls that provide thermal mass to prevent rapid temperature changes. Besides 24 hour security monitoring the ECC also has a key card entry system that tracks individual zone access. It is the only MNA facility that has a sophisticated temperature (60-70°F, $\pm 3^\circ\text{F}$ over 24 hours) and RH (30 to 45% RH, $\pm 6\%$) control system that slowly shifts with the seasons.

During this time, MNA was making limited progress with the preservation of its archives. Grants received from the Arizona Historical Records Advisory Board (2006, 2007) supported archive inventories and purchased rehousing supplies. However, the biggest hurdle faced by MNA in addressing the preservation needs of archives was MNA's lack of a professionally trained Archivist to guide archives organization and preservation efforts. A 2007 Southwestern Foundation grant supported the hiring of a Consultant Archivist (Dr. Errol Stevens) to help MNA develop archives storage furniture requirements and set general preservation priorities for MNA's archives holdings. The top recommendation in the Consultant Archivist's report was to hire an Archivist. This concurred with Jane MacKnight's 2004 CMAP where an archivist was identified as one of the two highest priority positions. Along with MNA's Preservation Plan, both reports provided essential support for a successful 2008 IMLS Museums for America grant which allowed MNA to hire a professionally trained Archivist. The Archivist developed

written archives management procedures, drafted for Board approval a revised Collections Management Policy that includes archives, created accession level archives files, rehoused portions of MNA's archives (with grants from NEH Preservation Assistance [2009], Arizona Historical Records Advisory Board [AHRAB 2009] and Southwestern Foundation [2009]), and entered archive holdings into MNA's Argus database.

With an Archivist on board, MNA was able to submit this successful grant proposal to NEH which allowed for the move of archives into the ECC, but MNA's preservation efforts with its archives is far from over. There are numerous next steps, some of which began to occur during the move of the Archives into the ECC. In August 2012, when the IMLS supported conservation team arrived the archivist worked directly with the Paper and Photographic Materials Conservators. It was immediately apparent that the photoarchives required extensive preservation work. Sixty-four file drawers of acetate negatives were tested with A-D strips (<https://www.imagepermanenceinstitute.org/imaging/ad-strips>) and of those, twelve file drawers showed clear evidence of vinegar syndrome. The conservation team alerted MNA that cool or cold storage was required for the preservation of the photographic materials, but they had no idea how much of each was required. This is an important question that MNA needed an answer for because the photorachive holdings are not insignificant in size. Photoarchives holds approximately 100,000 prints, 140,000 acetate negatives, and 48,000 slides, as well as glass and nitrate based media. For video formats, the photoarchives holds 52 16mm films, 30 35 mm films, 217 VHS tapes, 30 Betacams, 324 Umatic tapes, 3 DVcam, 9 Hi8 8mm videocassettes, 17 Helical videotapes, and 5 Ealing film loop cartridges. For audio formats, the photoarchives holds 20 phonograph records, 144 audiocassettes, 1 microcassette, and 296 audio reels. For electronic media, the photoarchives holds 9 DDS and 126 DAT formats. There are also 368 DVDs and CDs holding original materials and digitized photographs. With proper rehousing, the amount of space occupied by photographic materials will significantly increase. The amount of increase was unknown by the conservators and MNA.

The archivist and the archival intern immediately launched a pilot project to determine materials required to properly stabilize and rehouse the negatives. This project would also determine how much expansion was likely to occur during rehousing. This pilot project and information from the conservation team lead to the submission of a proposal to IMLS in early 2013 to conduct 4 pilot rehousing projects on print, slides, film, and audio materials. The IMLS photographic materials proposal was funded in September 2013.

The Archivist continues to solicit rehousing and preservation funds from NEH Preservation Assistance grants (2013), AHRAB (2013), and Antique Tribal Art Dealers Association (2012). With the help of the archives intern (Melissa Van Otterloo) she received grant funding from the National Film Preservation Foundation for the conservation of the 1949 Cohonina Dig film.

The archivist is currently working on a five-year plan to coordinate and prioritize the management of the library and archives. Once the five-year plan is complete, the archivist will coordinate with MNA staff and administration to determine which projects can be funded in-house and which will need assistance from external entities. She is currently working on the following initiatives.

- Archives to digitize: The Archivist is drafting a list of collections to digitize which incorporates and prioritizes digitization projects that Departments are requesting.
- Archives to assess for cultural sensitivity: The Archives at MNA hold collections related to institutional history, natural science, archaeology, anthropology, ethnology, and fine arts. Of particular concern with these collections is an awareness of cultural sensitivities. Because of the types of collections, many older processed manuscript collections need to be re-evaluated in light of federal laws and professional ethics that were not applicable at the time of their creation and description but which now influence accessibility. These laws include NAGPRA, Antiquities Act (16 USC 431-433), Curation of Federally-Owned and Administered Archaeological Collections

(36CFR79), Copyright (17 USC), and Visual Artists Rights Act of 1990 (VARA / 17 USC 106A), and also laws related to privacy rights. These laws impact what types of material are publicly available and influence which collections will require permissions from various stakeholders prior to researchers being allowed access on a case-by-case basis. The Archivist has drafted a list of potentially sensitive archives that require in-depth processing and consultation with tribes. Northern Arizona University Special Collections staff is discussing the transfer of records in their holdings to MNA in response to the guidelines set by the Arizona Matrix project and concerns over cultural sensitivity issues that are easier for MNA to address than the University can. Next steps in the areas of accessioning and processing collections include reviewing the current archival practice known as MPLP (more progress, less process), analyzing whether MPLP is a feasible methodology given the various laws and cultural sensitivities with these specialized collections, drafting proposals to hire a processing archivist to assist with more in-depth processing, and firming up policies and procedures on interacting with pertinent ethnic and tribal groups regarding collections related to their life ways.

- Staff education in laws and policies that affect archives: The Archivist is focusing on education of Museum staff in topics such as records retention and copyright risk assessments related to social media. She is addressing electronic records management awareness which must be brought to the forefront with MNA staff and partners so that sensitive records created now are handled with appropriate security and sensitivity.
- Culling copies of documents from other repositories: The second archivist on the project created a Historic Reference Collection, which is composed of unannotated, copied materials from other libraries and archival repositories. Separating out this redundant material is still ongoing and requires research into accession records to establish provenance. This process is necessary to clarify copyright and to enable the Museum to put its resources into preserving the unique collections it holds rather than spending time and money on materials that have already been described and made accessible elsewhere.

Besides the activities noted above, the Archivist is processing new archive acquisitions, assessing Library holdings for additional archives and reviewing descriptive aids. The Archives received two major collections containing material related to Rock Art in the last three months of the grant. These materials have been initially housed in the Library while preliminary inventories are created and materials shifted within the ECC to provide space. An additional assessment of the Library is underway to ensure that all relevant materials were transferred to the Archives. Of special interest is an ephemera collection of over 28,300 items containing journal reprints, brochures, typescripts, etc. which needs to be examined for relevance and annotated materials.

A number of collections have been accessioned and described in brief abstracts, but have never had DACS-compliant descriptive aids created for them or been fully examined for preservation, cultural sensitivities, and privacy issues. Work is still ongoing to provide minimal descriptions for some of the institutional records. This work is focused on creating basic box listings so that the archivist can prioritize which record groups need to be fully processed first. Collections in need of further processing and care have one designated area within the ECC shelving which streamlines managing the accessioning and processing workflows. Multiple accessions related to one collection are now grouped together until they can be fully processed.

Conclusion

With the invaluable support of the National Endowment of the Humanities Sustaining Cultural Heritage Collections Program, MNA was able to successfully move its archives out of deleterious storage conditions and into the ECC. Although faced with several challenges, much of value was learned, and MNA's irreplaceable archives are finally on a preservation path that will ensure their accessibility for generations to come.

Attachment 1
A Timeline of the Archives Move in Pictures
All photographs copyright of Museum of Northern Arizona.



Shelving in ECC Lobby Awaiting Installation, Early 2012



Shelving Installation April 2012



Storage Conditions in Library, Early 2012



Records Handed Over to Archivist by Departments



Moving Materials From the Library, 2013



Moving Boxes From Library Over Pavers to the ECC, 2013



Loading Boxes into Freezer



Inside the Freezer



Boxes (Brown Tape) Wrapped for Quarantine in Old Storage



Volunteers, Staff, and Student Crews Helping Move Archives (To keep shelving balanced, material had to be spaced out, but major shifts occurred at times to keep materials together. The mobile wire shelving was very useful in this situation.)



Remember – RECYCLE!

Packing Glass Plate Negatives for Transfer Over Pavers



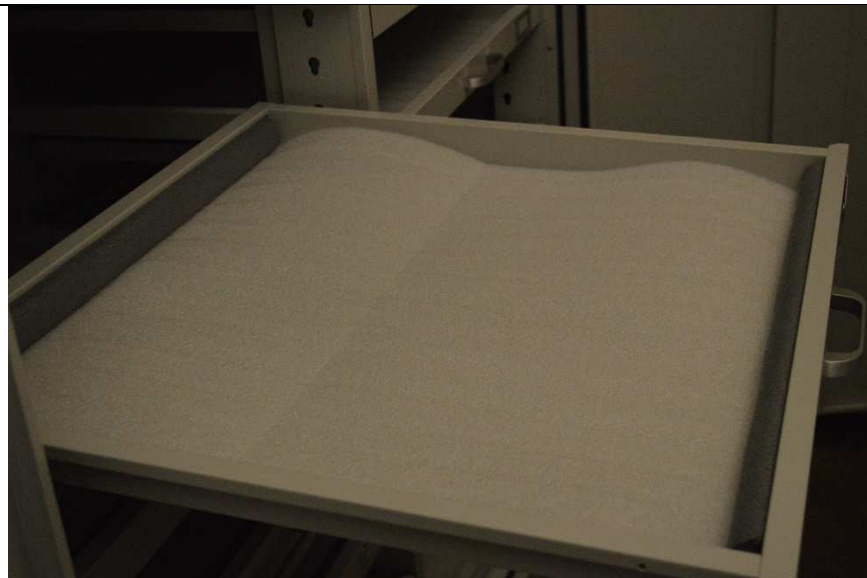
Packing Glass Plate Negatives with Ethafoam for Stabilization, June 2014.



Loading the Glass Plate Negative Boxes onto the Cart, June 2014.



Inserting Ethafoam to Minimize Shifting During Transfer, June 2014.



Prepping Drawers to Store Boxes of Glass Plate Negatives, June 2014.

Attachment 2

HOW DO ARCHIVES MOVE?

Melissa VanOtterloo * Museum of Northern Arizona

In 2011, the Museum of Northern Arizona (MNA) received an NEH Sustaining Cultural Heritage Collections grant to move archival collections into MNA's new LEED Platinum certified Easton Collection Center, a dedicated collections storage facility. This grant allowed MNA to purchase compact shelving for the ECC and fund an archivist position. As of December 2012, approximately half of the current archival holdings have been moved into the ECC. As space is cleared, more institutional records that are at present dispersed throughout the campus will be accessioned into the archives.

An important consideration when developing a moving procedure was MNA's integrated pest management policy. Everything that comes into the ECC and can be frozen is wrapped and kept in the walk-in freezer for at least one week to kill any pests. One of the issues that arose was formats that could not be frozen, such as photographic prints, negatives, magnetic media, optical media, and so forth. These materials, instead of being frozen, are separated, wrapped, and kept in isolation for six months to eliminate any pests before being moved.

Another issue is that of accessibility. Just how accessible are the materials during the move? The answer is, surprisingly, very accessible. Reference requests are still coming in and being researched as quickly as possible. During the move, the location of each box is tracked on an Excel spreadsheet, including those moved to the freezer and shelved or isolated. This ensures that the collections are still accessible.

The following steps comprise the procedure followed when moving collections at MNA:

1. Materials are selected for freezing based on their level of intellectual control and physical format – audiovisual formats are separated for isolation before being moved.
2. If the collection is unprocessed, as is the case with most institutional records, a folder-level inventory is created.
3. Boxes are prepared for the freezer by adding padding in the form of acid-free tissue or board supports where appropriate and wrapping them in polyethylene tubing.
4. The boxes are moved into the ECC's receiving area and directly into the freezer.
5. After one week, the boxes are removed from the freezer and left in the processing room to reacclimatize over the weekend – Friday is moving day!
6. The next week the boxes are unpacked and vacuumed to remove any bug casings or food sources that might attract pests to the new building.
7. The boxes are then shelved on the new compactor shelving!

For more information please contact Melissa VanOtterloo at MVanOtterloo@mna.mus.az.us.

